

Abstract

Devices and methods for automated collection and image analysis are disclosed that enable identification or classification of microscopic objects aligned or deposited on surfaces. Such objects, e.g. detectably labeled rare target cells, are magnetically or
5 non-magnetically immobilized and subjected to automated laser scanning to generate sequential digitized x-y sub-images or partial images of target and non-target objects that are combined to form reconstructed full images, thereby allowing detection, enumeration, differentiation and characterization of imaged objects on the basis of size, morphology and immunophenotype.